Abstract Submitted
for the NEF16 Meeting of
The American Physical Society

Biomedical Polymer Scaffolds Formed by Electrospinning and STRAND Technique[1] DANIEL O'BRIEN, Coll of the Holy Cross, MAKARAND PARANJAPE, Georgetown University — Intrinsic biological conditions place specific requirements on the materials used in cell transplants, which vary with changing environments. A biodegradable polymer called poly glycerol-sebacate (PGS) fits many such requirements. PGS microfibers and nanofibers can be fabricated using two techniques, electrospinning and the "STRAND" technique (Substrate Translation and Rotation for Aligned Nanofiber Deposition)—each giving fibers with mutable properties. Whereas electrospinning allows for random or generally aligned fiber collection, STRAND allows for highly aligned fiber collection. STRAND also enables multi-directional cross-hatching of fibers and the ability to control fiber morphology, diameter, and spacing to high accuracy. Fibers formed by these techniques are being used for retinal cell implantation and drug-release experiments, to study the effect of different spinning techniques on results.

[1]We thank the following for funding support: NSF Grant DMR-1358978 and the Mike Daniels Internship Fund

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Date submitted: 01 Oct 2016 Electronic form version 1.4